Remarks

I. Status of the claims

Claims 1-20 are pending.

II. Withdrawal of finality

As indicated in the Applicants' Interview Summary Record that was filed on November 16, 2006, and the Examiner's Interview Summary dated November 20, 2006, the Examiner has stated that he would withdraw the finality of the Office action because it introduced a new ground of rejection of claim 11, which had a scope that had not changed from the scope of claim 11 in its originally filed form.

III. Claim rejections under 35 U.S.C. § 112

The Examiner has rejected claims 1-20 under 35 U.S.C. § 112, second paragraph.

As indicated in the Applicants' Interview Summary Record that was filed on November 16, 2006, and the Examiner's Interview Summary dated November 20, 2006, the Examiner has stated that he would withdraw the rejections of claims 1-10 under 35 U.S.C. § 112, second paragraph.

Claim 11 has been amended in a way that addressees the Examiner's concerns regarding the term "imposing." Therefore, the Examiner's rejection of claim 11 under 35 U.S.C. § 112, second paragraph, now should be withdrawn. Claims 12-16 depend from claim 11 and therefore the rejection of these claims under 35 U.S.C. § 112, second paragraph, now should be withdrawn for the same reasons.

Contrary to the Examiner's statement, claims 17-20 do not depend from claim 11 and therefore the Examiner's basis for rejecting these claims under 35 U.S.C. § 112, second paragraph, does not apply to these claims. For this reason, the Examiner's rejection of claims 17-20 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

IV. Claim rejections under 35 U.S.C. § 103(a)

A. Claims 1-12 and 15-20

The Examiner has rejected claims 1-12 and 15-20 under 35 U.S.C. § 103(a) over Cox ("Product Life Cycles as Marketing Models").

Cox discloses graphic representations and mathematical descriptions of six types of product lifecycle model curves that were determined empirically for a sample of ethical drug products that had been introduced during 1955-59 and had attained "commercial birth" (i.e., "five thousand new prescriptions written in a given month") (see page 382, cols. 1 and 2, and FIG. 2). Regarding the use of such model curves, Cox teaches that (page 384, col. 1, ¶ 3):

> Interest in the regularity of product-life-cycle curves is based primarily on the potential use of these curves for forecasting purposes. Sales may be projected over the expected life of a product on the basis of a point estimate of the maximum sales level for the product. The estimate of maximum sales, when combined with the curve form associated with the product, makes it possible to forecast the sales growth or decline within each stage of the product life cycle. The length of each stage also may be forecast, providing an estimate of the expected life of the product.

Cox does not describe how the estimate of maximum sales is combined with the selected model curve to produce a lifecycle forecast that allows the length of each stage of the product life cycle and the expected life of the product to be forecast.

1. Claims 1-12, 15, and 16

Independent claim 1 recites:

> 1. A method of forecasting demand for a product, comprising:
>
> obtaining a product life cycle template comprising template parameter values each individually controlling a respective aspect of a respective one of a growth phase, a maturity phase, and a decline phase of a template demand profile;
>
> producing an initial demand forecast comprising demand values for the product over a product life cycle,

> wherein the producing comprises modifying one or more of the demand profile parameter values of the product life cycle template;
>
> determining one or more impact profiles each of which comprises one or more impact values, wherein each of the impact values specifies a respective impact of a respective set of one or more events on the initial demand forecast during a respective period of the product life cycle; and
>
> generating an event-adjusted demand forecast for the product, wherein the generating comprises convolving the impact values of the respective periods of the one or more impact profiles with the demand values of corresponding periods of the initial demand forecast.

The "Obtaining" Clause

On page 4, lines 2-10, of the Office action, the Examiner has stated that Cox teaches "obtaining a product life cycle template comprising template parameter values each individually controlling a respective aspect of a respective one of a growth phase, a maturity phase, and a decline phase of a template demand profile," as recited in claim 1. In particular, the Examiner has stated that:

> Page 382 Figure 2, the different types of product life cycle templates are comprised of parameter values; these parameter values control a respective aspect of a growth phase of a product life cycle quantitative model (i.e., a demand profile).

On page 382 and in FIG. 2, Cox discloses graphic representations and mathematical descriptions of six types of product lifecycle model curves that were determined empirically for a sample of ethical drug products that had been introduced during 1955-59 and had attained "commercial birth." The "parameter values" referred to by the Examiner are assumed to be the coefficients in the various polynomial equations shown in FIG. 2. None of these coefficients, however, individually controls a respective aspect of a respective one of a growth phase, a maturity phase, and a decline phase of a template demand profile, as recited in claim 1. Instead, each of these coefficients impacts the entire shape of its corresponding polynomial model curve.

Thus, contrary to the Examiner's statement, Cox does not teach or suggest the obtaining clause recited in claim 1. For at least this reason, the rejection of claim 1 under 35 U.S.C. § 103(a) over Cox should be withdrawn.

The "Producing" Clause

On page 4, lines 11-17, of the Office action, the Examiner has stated that Cox teaches "producing an initial demand forecast comprising demand values for the product over a product life cycle, wherein the producing comprises modifying one or more of the demand profile parameter values of the product life cycle template," as recited in claim 1. In particular, the Examiner has stated that:

> Page 384 column 1 para 3, total sales may be forecast over a total product life cycle based on a point estimate. Using the appropriate model for the life cycle curve would involve inputting a parameter (i.e., the maximum sales point) into the appropriate mathematical model.

On page 384 col. 1 ¶ 3, Cox teaches that (page 384, col. 1, ¶ 3):

> Interest in the regularity of product-life-cycle curves is based primarily on the potential use of these curves for forecasting purposes. Sales may be projected over the expected life of a product on the basis of a point estimate of the maximum sales level for the product. The estimate of maximum sales, when combined with the curve form associated with the product, makes it possible to forecast the sales growth or decline within each stage of the product life cycle. The length of each stage also may be forecast, providing an estimate of the expected life of the product.

Cox does not explicitly describe how the estimate of maximum sales is combined with the selected model curve to produce a lifecycle forecast that allows the length of each stage of the product life cycle and the expected life of the product to be forecast. Contrary to the Examiner's statement, the various equations shown in FIG. 2 do not contain a parameter for inputting the maximum sales point.

Nevertheless, as explained above the coefficients in the polynomial equations describing the various model curves shown in FIG. 2 are not template parameter values each individually controlling a respective aspect of a respective one of a growth phase, a maturity phase, and a decline phase of a template demand profile. Therefore, Cox cannot possibly teach or suggest the producing clause recited in claim 1. For at least this additional reason, the rejection of claim 1 under 35 U.S.C. § 103(a) over Cox should be withdrawn.

The "Determining" Clause

On page 4, line 18 - page 5, line 3, of the Office action, the Examiner has stated that Cox teaches "determining one or more impact profiles each of which comprises one or more impact values, wherein each of the impact values specifies a respective impact of a respective set of one or more events on the initial demand forecast during a respective period of the product life cycle," as recited in claim 1. In particular, the Examiner has stated that:

> Page 383 column 2 para 2, the promotional efforts (i.e., impact profiles) result in increased sales in the product where the values (i.e., increase in promotional expenditures) occure at the end of the Maturity phase.

On page 383 col. 2 ¶ 2 Cox teaches:

> The principal reason for the preponderance of the Type VI curves in the ethical-drug industry is the use of a promotional "hypo." A study of the promotional expenditures on behalf of the 258 products in the sample revealed that it is common practice to increase promotional expenditures sharply when an ethical-drug product reaches the end of the third, or Maturity, stage of the product life cycle. The promotional effort or hypo almost invariably results in increased sales of the product. There is a consequent transformation of the typical parabolic or second-degree life-cycle curve (Type I) into a third-degree (Type V) and, finally, the fourth-degree polynomial (Type VI), which is characteristic of the life-cycle curves of the ethical-drug industry.

In this section of his disclosure, Cox is not "determining one or more impact profiles each of which comprises one or more impact values," as recited in claim 1. Instead, Cox is explaining why many (i.e., 39.1%; see the table on page 383, col. 1) of the products in the study sample have life cycles that can be described by Type VI curves. In this regard, Cox teaches that promotional efforts or hypos in the Maturity stage of the product life cycle "invariably results in increases sales of the product." The observation that promotional efforts affect the shape of empirically determined product life cycle curves, however, does not constitute "determining one or more impact profiles each of which comprises one or more impact values, wherein each of the impact values specifies a respective impact of a respective set of one or more events on the initial demand forecast during a respective period of the product life cycle," as recited in the determining clause of claim 1.

For at least this additional reason, the rejection of claim 1 under 35 U.S.C. § 103(a) over Cox should be withdrawn.

The "Generating" Clause

On page 5, lines 4-12, of the Office action, the Examiner has stated that Cox teaches "generating an event-adjusted demand forecast for the product, wherein the generating comprises convolving the impact values of the respective periods of the one or more impact profiles with the demand values of corresponding periods of the initial demand forecast," as recited in claim 1. In particular, the Examiner has stated that:

> Page 383 column 2 para 3, the transformation of a second degree polynomial into a third degree polynomial is a convolution of the impact of the promotional efforts into the baseline demand based on the product life cycle. Note that the promotional efforts are time phased and occur "when a product reaches the end of the third, or Maturity, stage of the product."

On page 383 col. 2 ¶ 2 Cox teaches (emphasis added):

> Product life cycles in the ethical-drug industry, in taking the form of fourth-degree polynomials, may be said to represent a combination of "natural" and promotional market responses. Over the first three stages of the product life cycle, the typical parabolic form may be considered a "natural" response by the market to a product innovation. In the fourth (Decline) stage of the product life cycle, the promotional hypo will bring forth an additional market response, with the accompanying transformation of the life-cycle curve from a parabolic form to that of a fourth degree polynomial. If there is no promotional effort in the final stage of the product life cycle, the parabolic (second degree polynomial) curve stands as the basic form. In this case, the product life cycle represents the "natural" response of a market to product innovation.

In this section of his disclosure, Cox once again is making the observation that promotional efforts affect the shape of empirically determined product life cycle. Contrary to the Examiner's statement, Cox's reference to a "transformation of the life-cycle curve from a parabolic form to that of a fourth degree polynomial" merely refers to a figurative explanation of the effect of promotional efforts on the shape of life cycle curve of an ethical-drug product. For at least the reasons explained below, this "transformation" does not refer to an actual mathematical computation as assumed incorrectly by the Examiner.

First, as explained above, Cox does not teach or suggest anything about one or more impact profiles each of which comprises one or more impact values. Therefore, there is no reasonable way to interpret Cox's disclosure as teaching "convolving the impact values of the respective periods of the one or more impact profiles with the demand values of corresponding periods of the initial demand forecast," as recited in claim 1.

Second, in accordance with the product life cycle forecasting process described in Cox, a lifecycle product forecast is generated for a given product by selecting one of the six types of product lifecycle mode curves shown in FIG. 2 on page 382 and projecting the sales "over the expected life of a product on the basis of a point estimate of the maximum sales level for the product" (page 384, col. 1, ¶ 3). This process of generating a product lifecycle forecast does not involve "convolving the impact values of the respective periods of the one or more impact profiles with the demand values of corresponding periods of the initial demand forecast," as recited in claim 1.

For at least these reasons, Cox's disclosure would not have led one skilled in the art to perform the generating clause of claim 1 and the rejection of claim 1 under 35 U.S.C. § 103(a) over Cox should be withdrawn.

Each of claims 2-12, 15, and 16 incorporates the features of independent claim 1 and therefore is patentable over Cox for at least the same reasons explained above.

2. Claim 17

Independent claim 17 recites features that essentially track the pertinent features of independent claim 1 discussed above and therefore is patentable over Cox for at least the same reasons explained above in connection with independent claim 1.

3. Claims 18-20

Independent claim 18 recites features that essentially track the pertinent features of independent claim 1 discussed above and therefore is patentable over Cox for at least the same reasons explained above in connection with independent claim 1.

Each of claims 19 and 20 incorporates the features of independent claim 18 and therefore is patentable over Cox for at least the same reasons explained above.

B. Claims 13 and 14

The Examiner has rejected claims 13 and 14 under 35 U.S.C. § 103(a) over Cox in view of Smith ("Clearance Pricing and Inventory Policies for Retail Chains").

Each of claims 13 and 14 incorporates the features of independent claim 1. Smith does not make-up for the failure of Cox to teach or suggest the features of claim 1 discussed above. Therefore, claims 13 and 14 are patentable over Cox and Smith for at least the same reasons explained above. These claims also are patentable over the cited references for the following additional reasons.

Claim 13 recites that "computing the channel inventory impact measure comprises computing a measure comparing the aggregate channel weeks of supply estimate and an estimate of an aggregate weeks of supply target for the channel."

Claim 14 depends from claim 13 and recites that "computing the channel inventory impact measure further comprises adjusting the comparison measure based upon an estimate of channel demand sensitivity to actual inventory levels relative to target inventory levels."

In support of his rejection of claim 13, the Examiner has stated that (emphasis added):

> Page 288 column 2 para 3, Smith teaches that inventory has an impact on sales via a function where sales is dependent on inventory. Smith teaches that inventory only has an impact on sales when inventory exceeds a threshold. Smith's value f_0 defines this threshold. Smith teaches comparing the inventory (i.e. aggregate channel weeks of supply) and an estimate of the inventory target (i.e. aggregate channel weeks of supply target) enables inventory to be adjusted so that it's effect on sales is optimized (see also page 293 equation 26 in column 1).

In support of his rejection of claim 14, the Examiner merely has copied verbatim the underlined sentence of the paragraph quoted above.

Contrary to the Examiner's statements in support of the rejection of claims 13 and 14, equation (26) on page 293 of Smith does not teach "computing a measure comparing the aggregate channel weeks of supply estimate and an estimate of an aggregate weeks of supply target for the channel," as required by claims 13 and 14. Equation (26) is an expression for the inventory effect on the sales rate (see equation (12) on page 290). In equation (26), the inventory effect y(I) is a function of the current inventory level I, the threshold level f_0, and a sensitivity parameter μ. In accordance with equation (26), y(I) is neither a function of an

aggregate channel weeks of supply estimate nor a function of an estimate of an aggregate weeks of supply target for the channel.

For at least these additional reasons, the Examiner's rejection of claims 13 and 14 over Cox and Smith should be withdrawn.

III. Conclusion

For the reasons explained above, all of the pending claims are now in condition for allowance and should be allowed.

Charge any excess fees or apply any credits to Deposit Account No. 08-2025.

Respectfully submitted,

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